

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of building a tire in which a green case composed mainly of a cylindrical carcass band, annular bead cores and bead fillers is arranged on an outer peripheral side of a tire building drum, and a central portion of the green case is expansion-deformed in a radial direction while approaching both the bead cores to each other under a restraint of the bead cores by the tire building drum, and then the green case is pressed onto an inner peripheral face of a belt-tread band composed mainly of a belt and a tread, and thereafter each end portion of the carcass band is turned around the bead core, wherein the carcass band is pushed onto rigid support members comprising two differently shaped kinds of rigid support members alternately arranged in a peripheral direction without space in at least diameter-expanded posture, arranged inward in an axial direction of the carcass band over a whole of an arranging region of the bead core and the bead filler together therewith in the turning of the carcass band.

2. (currently amended): A method of building a tire in which a cylindrical carcass band is shaped on a building drum, and bead cores and bead fillers are arranged on an outer peripheral side of the carcass band to form a green case, and a central portion of the green case is expansion-deformed in a radial direction while approaching both the bead cores to each other under a restraint of the bead core, and the green case is pressed onto an inner peripheral face of a belt-tread band composed mainly of a belt and a tread, and thereafter the carcass band is pushed onto rigid support members comprising two differently shaped kinds of rigid support members

alternately arranged in a peripheral direction without space in at least diameter-expanded posture, arranged inward in an axial direction of the carcass band over a whole of an arranging region of the bead core and the bead filler together therewith.

3. (currently amended): A tire building drum comprising a building bladder having substantially a cylindrical form and capable of expanding in a radial direction, a pair of bead lock means located adjacent to end portions of the building bladder and movable laterally as well as approaching to and separating away from each other and displacing in a diameter-expansion direction, double fold bladders located adjacent to an outside of each bead lock means and arranged inward and outward in the radial direction, and plural rigid support members comprising two differently shaped kinds of rigid support members alternately arranged in a peripheral direction, arranged inside the building bladder and at a position adjacent to an inside of the bead lock means and ~~displacing-movable~~ in diameter expansion and contraction directions in the radial direction in which these members are aligned in a peripheral direction without space in at least diameter-expanded posture and form an annular plane having a given width in the radial direction at a plane perpendicular to a center axial line of the building bladder and crossing thereto.

4. (currently amended): A tire building drum according to claim 3, wherein a width of an annular plane in a radial direction formed at a posture of diameter-expanding the plural rigid support members is made wider than lengths of ~~the~~ a bead core and a bead filler in the radial direction.

5. (previously presented): A tire building drum according to claim 3, wherein a bead receiving face at the outer peripheral face of the bead lock means in a section inclusive of a center axial line of the building bladder is rendered into a U-shaped form opening outward in the

radial direction or a collar form in which a central portion side of the center axial line is large in the diameter and an end portion side thereof is small in the diameter.

6. (currently amended): A tire building drum according to claim 3, wherein a portion of the fold bladder located outward in the radial direction and near to the central portion of the center axial line of the building bladder is arranged so as to protrude up to a position covering the whole of ~~the~~ a bead receiving face at the outer peripheral face of the bead lock means in a section inclusive of a center axial line of the building bladder.

7. (currently amended): A tire building drum according to claim 3, which is provided with an expansion and contraction mechanism comprising said two differently shaped kinds of rigid support members alternately arranged in a peripheral direction, a link hingedly connected at one end portion to each of the rigid support members, a cylinder hingedly connected to the other end portion of the link and arranged so as to reciprocatedly move the other end portion of the link in a direction of a center axial line of a building drum, and a guide mechanism limiting a direction of expansion and contraction displacement of the rigid support member in the radial direction.

8. (previously presented): A tire building drum according to claim 4, wherein a bead receiving face at the outer peripheral face of the bead lock means in a section inclusive of a center axial line of the building bladder is rendered into a U-shaped form opening outward in the radial direction or a collar form in which a central portion side of the center axial line is large in the diameter and an end portion side thereof is small in the diameter.

9. (new): The method of claim 1, wherein a first one of said two differently shaped kinds of rigid support members has a trapezoidal shape, and a second one of said two differently shaped kinds of rigid support members has a fan shape.

10. (new): The method of claim 9, further comprising expanding and contracting said first one of said rigid support members via a first link hingedly connected at one end portion to a bracket of said first one of said rigid support members, a first cylinder hingedly connected to another end portion of the first link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the first link in the direction of the center axial line of the building bladder, and a first guide guiding radial displacement of said first one of said rigid support members while maintaining and restraining a vertical posture of said first one of said rigid support members to the center axial line.

11. (new): The method of claim 10, further comprising expanding and contracting said second one of said rigid support members via a second link hingedly connected at one end portion to a bracket of said second one of said rigid support members, a second cylinder hingedly connected to another end portion of the second link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the second link in the direction of the center axial line of the building bladder, and a second guide guiding radial displacement of said second one of said rigid support members while maintaining and restraining a vertical posture of said second one of said rigid support members to the center axial line, wherein said second link has a greater length than said first link.

12. (new): The method of claim 10, wherein a distance from the center axial line to the outer peripheral face of the second one of said rigid support members in the diameter-contraction is smaller than that in the outer peripheral face of the first one of said rigid support members.

13. (new): The method of claim 2, wherein a first one of said two differently shaped kinds of rigid support members has a trapezoidal shape, and a second one of said two differently shaped kinds of rigid support members has a fan shape.

14. (new): The method of claim 13, further comprising expanding and contracting said first one of said rigid support members via a first link hingedly connected at one end portion to a bracket of said first one of said rigid support members, a first cylinder hingedly connected to another end portion of the first link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the first link in the direction of the center axial line of the building bladder, and a first guide guiding radial displacement of said first one of said rigid support members while maintaining and restraining a vertical posture of said first one of said rigid support members to the center axial line.

15. (new): The method of claim 14, further comprising expanding and contracting said second one of said rigid support members via a second link hingedly connected at one end portion to a bracket of said second one of said rigid support members, a second cylinder hingedly connected to another end portion of the second link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the second link in the direction of the center axial line of the building bladder, and a second guide guiding radial displacement of said second one of said rigid support members while maintaining and restraining a vertical posture of said second one of said rigid support members to the center axial line, wherein said second link has a greater length than said first link.

16. (new): The method of claim 14, wherein a distance from the center axial line to the outer peripheral face of the second one of said rigid support members in the diameter-

contraction is smaller than that in the outer peripheral face of the first one of said rigid support members.

17. (new): The tire building drum of claim 3, wherein a first one of said two differently shaped kinds of rigid support members has a trapezoidal shape, and a second one of said two differently shaped kinds of rigid support members has a fan shape.

18. (new): The tire building drum of claim 17, further comprising expanding and contracting said first one of said rigid support members via a first link hingedly connected at one end portion to a bracket of said first one of said rigid support members, a first cylinder hingedly connected to another end portion of the first link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the first link in the direction of the center axial line of the building bladder, and a first guide guiding radial displacement of said first one of said rigid support members while maintaining and restraining a vertical posture of said first one of said rigid support members to the center axial line.

19. (new): The tire building drum of claim 18, further comprising expanding and contracting said second one of said rigid support members via a second link hingedly connected at one end portion to a bracket of said second one of said rigid support members, a second cylinder hingedly connected to another end portion of the second link and arranged substantially in parallel to a center axial line of the building bladder to reciprocatedly move the other end portion of the second link in the direction of the center axial line of the building bladder, and a second guide guiding radial displacement of said second one of said rigid support members while maintaining and restraining a vertical posture of said second one of said rigid support members to the center axial line, wherein said second link has a greater length than said first link.

20. (new): The tire building drum of claim 18, wherein a distance from the center axial line to the outer peripheral face of the second one of said rigid support members in the diameter-contraction is smaller than that in the outer peripheral face of the first one of said rigid support members.